UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,051	10/25/2000	Kenneth R. Owens	069116.0176	4425

50627 7590 01/11/2008

BAKER BOTTS L.L.P.
2001 ROSS AVENUE
6TH FLOOR
DALLAS, TX 75201

EXAMINER	
PHUNKULH, BOB A	

ART UNIT	PAPER NUMBER
2619	

NOTIFICATION DATE	DELIVERY MODE
01/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail3@bakerbotts.com
PTOmail4@bakerbotts.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/696,051
Filing Date: October 25, 2000
Appellant(s): OWENS ET AL.

Charles S. Fish
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/23/2007 appealing from the Office action mailed 9/25/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,721,269	*CAO* et al.	4-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 24, it is not clear what it meant by "the path that follows the working path mirrors the working path" as cited in the claim. Should it be the protection path mirrors the working path?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4-6, 12-29 are rejected under 35 U.S.C. 102(e) as being anticipated by *CAO* et al. (US 6,721,269), hereinafter *CAO*.

Regarding claim 4, *CAO* discloses a multi-protocol label switching (MPLS) system protection switch comprising:

a first data input port into which MPLS data is received from a data source (the data source connected to LSRS not shown in figure 1);

a first data output port from which MPLS data is sent to a second MPLS switching system comprising an MPLS working path (path S-A-B-E, see claim 1 and col. 6 lines 12-23);

a second data output port from which MPLS data is sent to a third MPLS switching system comprising an MPLS protection path (path S-C-D-E, see claim 1 and col. 6 line 12-23);

a second data input port adapted to connect to a path that follows the MPLS working path for receiving failure notifications;

whereby data received at the data input port from the data source can be selectively routed from the second MPLS switching system to the third MPLS switching

system by a node at an origin of both the MPLS working path and the MPLS protection path and upstream to the failure (the source and sink routers along the path having both working and protection paths and each router acts as an origin of both the MPLS working and protection path, see figure 1 and col. 3 lines 35-57; and a failure is propagates to the source and sink routers, where the source node upstream to the failure, see col. 3 lines 23-41).

Regarding claim 5, *CAO* discloses the MPLS switching system of claim 4 further comprising a control input port whereat protection path failure messages are received from at least one the second MPLS switching system and the third MPLS switching system (see claim 1 and figure 1).

Regarding claim 6, *CAO* discloses a multi-protocol label switching (MPLS) system comprised of a first MPLS protection switch having a data input port into which MPLS data is received from a data source;

a second MPLS switching system (either LSRA or LSRB, see figure 1) coupled to the first MPLS protection switch (LSRS, see figure 1) via a first data path carrying MPLS data, the first data path comprising an MPLS working path (path S-A-B-E, see figure 1);

a third MPLS switching system (either LSRC or LSRD, see figure 1) coupled to the first MPLS protection switch (LSRS, see figure 1) via a second data path capable of carrying MPLS data, said second data path comprising an MPLS protection path (path S-C-D-E, see figure 1);

an upstream reverse notification tree (RNT) data path extending at least between the second MPLS switching system to the MPLS protection switch, that upon a failure can carry data by which in response to the failure a switchover from a working path to a protection path can be initiated (when the source and sink routers are alerted to the path failure (the notification to the source node is reverse notification), the sink router switches to the secondary path for communications. The source router may then establish another explicitly routed communications path to act as a new secondary path, see col. 3 lines 53-57).

Regarding claim 12, *CAO* discloses a method for MPLS protection switching from a working path to a protection path comprising:

transmitting a failure notification to a protection switch node along a path that follow the working path (see col. 3 lines 41-57); and

routing data a the protection switch node from the working path to the protection path upon receipt of the failure notification, wherein the protection switch node is at an origin of the working path and the protection path and the protection switch node is upstream to the failure (the source router along the path having both working and protection paths and acts as an origin of both the MPLS working and protection path, see figure 1 and col. 3 lines 35-57; and a failure is propagates to the source and sink routers, where the source node upstream to the failure, see col. 10 lines 23-41).

Regarding claim 13, *CAO* discloses the failure notification is transmitted in a direction reverse to the working path (see col. 10 lines 21-41).

Regarding claim 14, *CAO* discloses the path follows the protection path mirrors the working path (see figure 1).

Regarding claim 15, *CAO* discloses detecting a failure (see col. 3 lines 49-51).

Regarding claim 16, *CAO* discloses the first switching node is upstream to the failure (LSRS, see figure 1 and col. 10 lines 21-41).

Regarding claim 17, *CAO* discloses the failure is an upstream failure and is detected by a node upstream to the failure (path S-A-B-E and detected by LSRA, see figure 1 and col. 10 lines 21-41).

Regarding claim 18, *CAO* disclose the failure is downlink failure and is detected by a node downlink to the failure (path S-A-B-E and detected by LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 19, *CAO* disclose the failure is a bi-directional failure and is detected by a pair of nodes downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 20, *CAO* disclose the failure is detected by a pair of nodes downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 21, *CAO* discloses an apparatus for MPLS protection switching from a working path to a protection path comprising:

a failure notification relay mechanism adapted to transmit a failure notification along at least one segment of a path that follows the working path, upon a failure along the working path (If, for example, the link between LSRA and LSRB of FIG. 1 should fail, receivers at both LSRA and LSRB will detect the broken link. In response to this detection, LSRA will generate a "Downstream Lost" status message, and LSRB will generate an "Upstream Lost" status message. In response to receiving such status messages, both LSRA and LSRB will remain in the "established state", release related label resources, and separately propagate Nak messages upstream and downstream, see col. 10 lines 23-41); and

a protection switch adapted to switch traffic from the working path to the protection path upon receiving the failure notification, wherein the protection switch is at an origin of the working and protection paths (at the sink node the traffic are switch from the primary path to the pre-established secondary path, see col. 2 lines 65-67).

Regarding claim 22, *CAO* discloses a failure detection mechanism adapted to detect the failure and transmit the failure notification along the at least one segment of the path that follows the working path (the LSRA propagate Nak message upstream to the sink node, where the link between the LSRS-LSRA is the at lease one segment of the path that follows the primary path, see col. 10 lines 23-41).

Regarding claim 23, *CAO* discloses the failure notification relay mechanism is adapted to allow the transmission of the failure notification in a reverse direction of the working path (the LSRA propagate Nak message upstream to the sink node, see col. 10 lines 23-41).

Regarding claim 24, *CAO* discloses the path that follows the working path mirrors the working path (the primary path S-A-B-E mirrors the secondary path S-C-D-E, see figure 1).

Regarding claim 25, *CAO* discloses the failure detection mechanism is at a node upstream to the failure (node LSRA is upstream to the failure, see col. 10 lines 28-41).

Regarding claim 26, *CAO* discloses the failure is an uplink failure and the failure detection mechanism is at a node upstream to the failure (node LSRA is upstream to the failure, see col. 10 lines 28-41).

Regarding claim 27, *CAO* discloses the failure detection mechanism is at a node downstream to the failure (node LSRB is downstream to the failure, see col. 10 lines 28-41).

Regarding claim 28, *CAO* discloses the failure is bi-directional failure and the detection mechanism is at a pair of nodes downlink and uplink to the failure (the link between the nodes LSRA and LSRB is bi-directional and the pair nodes detect the the link failure, see col. 10 lines 28-41).

Regarding claim 29, *CAO inherently* discloses the failure is a node failure and the failure detection mechanism is at a pair of nodes downlink and uplink to the failure (Suppose node LSRA failed, the node LSRB and LSRS will detect the failure due to lost of signal, loss of frame, see col. 10 lines 1-41).

(10) Response to Argument

In response to the applicant's argument for claim 4, *CAO* teaches the following:

In col. 3 lines 41-63:

> The sink router chooses one of these paths as the primary path and communicates along this primary path unless the primary path fails. If the primary path fails, the sink router switches to communications over the secondary path. In those systems where physical or link level maintenance information is available, all the routers along the explicitly routed paths may monitor this information to quickly detect any path failures. For example, in a SONET-based system the routers may employ SONET fault indicators to detect path failures. If such a failure is detected, the router that first detects the failure propagates this information to the source and sink routers. The failure information may be propagated, for example, through provisioned flow information. When the source and sink routers are alerted to the path failure, the sink router switches to the secondary path for communications.

> The routers along the secondary path may also monitor the path, and propagate failure information, as described above, so that the source and sink routers may establish another secondary path in the event of a secondary path failure.

As shown in figure 1, a source router (LSRS) establishes a primary path with a sink router LSRE via intermediate routers LSRA and LSRB, a secondary path with the sink router LSRE via intermediate routers LSRC and LSRD. When a failure is detected by the intermediate router i.e. LSRA or LSRB, the intermediate router that detects the failure propagates the failure information to the source router LSRS and the sink router LSRE. Therefore, *CAO* discloses the source node LSRS includes an input port for receiving the propagated failure information i.e. link between LSRS and LSRA. Also, the source node LSRS, origin of both working path and protection path, receives data from a source (not shown in figure 1) and routes data to the sink router LSRE via the protection path when it received the failure notice.

As cited above, *CAO* discloses if such a failure is detected, the router that first detects the failure propagates this information to the source and sink routers, and the sink router switches to the secondary path for communications. Therefore, *CAO* discloses "an upstream reverse notification tree (RNT) data path that follows the MPLS working path and extends at least between the second MPLS switching system to the first MPLS protection switch, that upon a failure can carry a failure notification by which in response to the failure a switchover from the MPLS working path to the MPLS protection path, by a node at an origin of the MPLS working path and the MPLS protection path, can be initiated" as cited in claim 6.

For claim 21, *CAO* discloses if such a failure is detected, the router that first detects the failure propagates this information to the source and sink routers, and the sink router switches to the secondary path for communications. Therefore, *CAO* teaches the claimed subject matter "a failure notification relay mechanism adapted to transmit a failure notification along at least one segment of a path that follows the working path, upon a failure along the working path; and a protection switch adapted to switch traffic from the working path to the protection path upon receiving the failure notification, wherein the protection switch is at an origin of the working and protection paths."

In response to the applicant's argument in page 8, CAO discloses the source node LSRS transmits data along both the working path and protection path. In col. 3 line 41-63, the router that first detects the failure in the primary path propagates the failure information to the source LSRS router and sink router LSRE. Upon receiving the failure information, the sink router LSRE switches to the secondary path. Also, the source router LSRS and LSRE establishes a new secondary path, and the LSRS switches to the new secondary path by start transmitting data on the new secondary path and the new primary path (see col. 3 lines 59-63). It should be noted that the LSRS is the origin of both primary and secondary paths at any time i.e. even after the new secondary path is established.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Bob A. Phunkulh
Primary Examiner
January 07, 2008

Conferees:

Wellington Chin
Tech-center Quality Assurance Specialist
TC 2600

Jay Patel
Supervisory Patent Examiner
AU 2619

JAY K. PATEL
SUPERVISORY PATENT EXAMINER